1980 Index for Journal of Spacecraft and Rockets

Note: Beginning this year, each of the journals published by AIAA will contain its own Index in the final issue of the year. In addition, a Combined Index, referencing all of the papers published during 1980 in the six AIAA journals and the *Progress in Astronautics and Aeronautics* books, will be offered for sale early in 1981 as the start of a new service that not only will combine the several indexes but also will cumulate them from year to year.

How to Use the Index

In the Subject Index, pages 569-572, each technical paper is listed under a maximum of three appropriate headings. Note the number in boldface type following each paper title, and use that number to locate the paper in the Chronological Index.

The Author Index, pages 572-573, lists all authors associated with a given technical paper. The locating numbers are identical to those in the Subject Index.

The Chronological Index, pages 573-576, lists all papers by their unique code numbers. This listing contains titles, authors and their affiliations, and volume, issue number, and page where the paper appeared. It also gives the AIAA paper number, if any, on which the article was based, as well as the "CP" or conference volume number if the paper was published in a bound collection of meetings papers.

Comments, Replies, and Errata are listed directly beneath the paper to which they refer. If the paper to which they refer was published prior to 1980, that paper also will appear in both the Subject and Chronological Indexes. Authors of Comments also are listed in the Author Index.

Subject Index

Aircraft Technology, Conventional, STOL/VTOL

Aerodynamics

Missile Aerodynamics—Past, Present, Future A80-033

Deceleration Systems

Effects of Line Ties on Parachute Deployment A80-045

Noise

Prediction of the Acoustic Environment in the Space Shuttle Payload Bay A80-041

Energy

Batteries

Nickel-Cadmium Battery Technology Advancements for Geosynchronous Orbit Spacecraft A80-087

Hydrogen and Unique Fuels

NTS-2 Nickel-Hydrogen Battery Performance A80-006

Microwaves

High-Power Travelling Wave Tubes for Direct TV Broadcast Satellites A80-005

Photovoltaic Power

Automatic Fabrication of Large Space Structures—The Next Step A80-051

Power Conditioning

Inductive Energy Storage for MPD Thrusters A80-077

Rotating Machinery

Solving Subsynchronous Whirl in the High-Pressure Hydrogen Turbomachinery of the SSME A80-038

Solar Thermal Power

Thermal Resistance of a Convectively Cooled Plate with Nonuniform Applied Flux A80-063

Fluid Dynamics

Boundary Layers and Convective Heat Transfer-Turbulent

Turbulent Radiating Shock Layers with Coupled Ablation Injection A80-034

Computational Methods

Afterbody Pressure Correlations for Vehicles with Ablated Nose Shapes A80-085
Hypersonic Viscous Shock-Layer Flows Including Leeside Separation A80-055
Prediction of Rocket Plume Flowfields for Infrared Signature Studies A80-036
Missile Aerodynamics—Past, Present, Future A80-033
Engineering Model for Re-entry Vehicle Turbulent Wakes A80-023

Jets, Wakes, and Viscid-Inviscid Flow Interactions

Alleviation of Vortex-Induced Axymmetric Loads A80-098
Maximum Side Forces and Associated Yawing Moments on Slender Bodies A80-097
Pulsed Plasma Thruster Backflow Characteristics A80-078
Symmetric Body Vortices on Slender Bodies of Revolution at Transonic Speeds A80-049
Prediction of Rocket Plume Flowfields for Infrared Signature Studies A80-036
Transonic Sting Interference A80-026
Engineering Model for Re-entry Vehicle Turbulent Wakes A80-023
Scale Effects on Fluctuating Pressures in Spike-Induced Flow Separation A80-021
GAU-8 Projectile Afterbody Drag Reduction by Boattailing and Heated Gas Injection A80-009
Subsonic Axisymmetric Base Flow Experiments with Base Modifications A80-008

Multiphase Flows

Specific Impulse Prediction of Solid-Propellant Motors A80-071

Nonsteady Aerodynamics

Transonic Sting Interference A80-026
Scale Effects on Fluctuating Pressures in Spike-Induced Flow Separation A80-021

Nozzle and Channel Flow

Evacuation of a Spacelab Experiment Chamber Through the Venting Line A80-030

Radiatively Coupled Flows and Heat Transfer

Turbulent Radiating Shock Layers with Coupled Ablation Injection A80-034

Rarefied Flows

The Drag Balance: An Apparatus for Studying Atmosphere-Satellite Surface Interactions A80-104
Evacuation of a Spacelab Experiment Chamber Through the Venting Line A80-030

Reactive Flows

Modification of the Aerospace Environment by Large Space Vehicles A80-040

Shock Waves and Detonations

Reynolds Number Effects on Aerodynamic Characteristics at Large Angles of Attack A80-024

Subsonic Flow

Alleviation of Vortex-Induced Axymmetric Loads A80-098
Maximum Side Forces and Associated Yawing Moments on Slender Bodies A80-097
Subsonic Axisymmetric Base Flow Experiments with Base Modifications A80-008

Supersonic and Hypersonic Flow

Waverider Configurations Derived From Inclined Circular and Elliptic Cones A80-095
Calculation of Pressures on Bodies at Low Angles of Attack in Supersonic Flow A80-094
Afterbody Pressure Correlations for Vehicles with Ablated Nose Shapes A80-085
Hypersonic Viscous Shock-Layer Flows Including Leeside Separation A80-055
Ballistic Missile Re-entry Dispersion A80-042
Reynolds Number Effects on Aerodynamic Characteristics at Large Angles of Attack A80-024
Engineering Model for Re-entry Vehicle Turbulent Wakes A80-023
Simplified Geometric Modeling of Complex Aerodynamic Shapes A80-013
GAU-8 Projectile Afterbody Drag Reduction by Boattailing and Heated Gas Injection A80-009

Transonic Flow

Symmetric Body Vortices on Slender Bodies of Revolution at Transonic Speeds A80-049
Transonic Sting Interference A80-026

Viscous Nonboundary-Layer Flows

Aerodynamic Effects of Body Slots on a Guided Projectile with Cruciform Surfaces A80-099
Hypersonic Viscous Shock-Layer Flows Including Leeside Separation A80-055
Subsonic Axisymmetric Base Flow Experiments with Base Modifications A80-008

Interdisciplinary Topics

Aerospace Technology Utilization

Large Space Structure Automated Assembly Technique A80-061

Analytical and Numerical Methods

Missile Aerodynamics—Past, Present, Future A80-033

Atmospheric and Space Sciences

The Drag Balance: An Apparatus for Studying Atmosphere-Satellite Surface Interactions A80-104
Modification of a Very Large Test Chamber for Plasmasphere Simulation A80-056
Modification of the Aerospace Environment by Large Space Vehicles A80-040
The Geostationary Radiation Environment A80-027

Computer Technology

Simplified Geometric Modeling of Complex Aerodynamic Shapes A80-013

Reliability, Maintainability, and Logistics Support

Impact of the Space Environment on Spacecraft Lifetimes A80-084

Research Facilities and Instrumentation

Modification of a Very Large Test Chamber for Plasmasphere Simulation A80-056
Automatic Fabrication of Large Space Structures—The Next Step A80-051

Satellite Communication Systems (including Terrestrial Stations)

Electrostatically Formed Antennas A80-081
Large Multibeam Antennas for Space A80-062
Advanced Technology for Direct TV-Broadcasting Satellites A80-016
Telesat Canada Plans for New Satellite Systems A80-015
Evolution of the Intelsat System from Intelsat IV to Intelsat V A80-014
High-Power Travelling Wave Tubes for Direct TV Broadcast Satellites A80-005
Communications Satellite System Concept Based on the AMPS Experiment A80-003
Rapid-Scan Area-Coverage Communication Satellite A80-002
Technologies for Future INTELSAT Satellites A80-001

Sensor Systems

Analysis of an Arctic Polesitter A80-046
Miniature Quartz Crystal Microbalance for Contamination Measurement A80-028

Space Processing

Preparation of Ultrapure Thorium Under Outer Space Conditions A80-067
Swedish Materials Science Experiment in the Texus 1 and 2 Rockets A80-048
Evacuation of a Spacelab Experiment Chamber Through the Venting Line A80-030

Launch Vehicle and Missile (LV/M) Technology

Aerodynamic Heating and Ablation

Technology and Operational Considerations for Low-Heat-Rate Entry Trajectories A80-080

Aerodynamics

Aerodynamic Effects of Body Slots on a Guided Projectile with Cruciform Surfaces A80-099
Alleviation of Vortex-Induced Axymmetric Loads A80-098
Maximum Side Forces and Associated Yawing Moments on Slender Bodies A80-097
Vortex Development on Slender Missiles at Supersonic Speeds A80-064
Symmetric Body Vortices on Slender Bodies of Revolution at Transonic Speeds A80-049
Ballistic Missile Re-entry Dispersion A80-042
Aerodynamic Characteristics for Debris from Space Shuttle External Tank A80-035
Ogive Cylinder Modified for Near-Minimum Side Moment A80-031
Reynolds Number Effects on Aerodynamic Characteristics at Large Angles of Attack A80-024
Scale Effects on Fluctuating Pressures in Spike-Induced Flow Separation A80-021

Configurational Design

Waverider Configurations Derived From Inclined Circular and Elliptic Cones A80-095

Dynamics and Control

Space Transportation System Solid Rocket Booster Thrust Vector Control System A80-072
Two-Impulse Orbit Transfer Error Analysis via Covariance Matrix A80-043
Ballistic Missile Re-entry Dispersion A80-042
Ogive Cylinder Modified for Near-Minimum Side Moment A80-031

Launch Vehicle Systems

Hybrid Rocket/Airbreathing Propulsion for Ballistic Space Transportation A80-058
High-Energy Launcher for Commercial Transportation to Space A80-032
Optimization of Rocket Propulsion Systems for Advanced Earth-to-Orbit Shuttles A80-019

Missile Systems

Deployable Heatshields for Future Multistage Missiles A80-010

Mission Studies and Economics

Large Delta Wings for Earth-to-Orbit Transports A80-079
Economic and Programmatic Considerations for Advanced Transportation Propulsion Technology A80-068
Dual-Fuel Propulsion: Recent Results for Earth-to-Orbit Vehicles A80-066
Impact of Far-Aft Center of Gravity for a Single-Stage-to-Orbit Vehicle A80-054
High-Energy Launcher for Commercial Transportation to Space A80-032

Propulsion and Propellant Systems

Thrust and Ignition Transients of the Space Shuttle Solid Rocket Motor A80-089
Large Delta Wings for Earth-to-Orbit Transports A80-079
Space Transportation System Solid Rocket Booster Thrust Vector Control System A80-072
Economic and Programmatic Considerations for Advanced Transportation Propulsion Technology A80-068
Dual-Fuel Propulsion: Recent Results for Earth-to-Orbit Vehicles A80-066
Hybrid Rocket/Airbreathing Propulsion for Ballistic Space Transportation A80-058
Impact of Far-Aft Center of Gravity for a Single-Stage-to-Orbit Vehicle A80-054

Optimization of Rocket Propulsion Systems for Advanced Earth-to-Orbit Shuttles A80-019

Simulation

Coupled-Interaction Launch Behavior of a Flexible Rocket and Flexible Launcher A80-076
Free-Flight Rocket Attitude Motion Due to Transverse Vibration A80-075

Sounding Rocket Systems

Swedish Materials Science Experiment in the Texus 1 and 2 Rockets A80-048

Structural Design (including Loads)

Axially Compressed Optimum Cylinder—Comparison of Stiffener Configurations A80-083
Coupled-Interaction Launch Behavior of a Flexible Rocket and Flexible Launcher A80-076
Response of Graphite/Epoxy Sandwich Panels to Moisture and Temperature Transients A80-039

Subsystem Design and Ground Support

Deployable Heatshields for Future Multistage Missiles A80-010

Testing, Flight and Ground

Quarter-Scale Space Shuttle Design, Fabrication, and Test A80-053
Center-Loaded Duct Integral Rocket-to-Ramjet Transition Testing A80-020

Trajectories and Tracking Systems

Two-Impulse Orbit Transfer Error Analysis via Covariance Matrix A80-043

Vibration

Free-Flight Rocket Attitude Motion Due to Transverse Vibration A80-075
Quarter-Scale Space Shuttle Design, Fabrication, and Test A80-053

Propulsion

Airbreathing Propulsion

Integral-Rocket Dual-Combustion Ramjets: A New Propulsion Concept A80-074
Hybrid Rocket/Airbreathing Propulsion for Ballistic Space Transportation A80-058
High-Energy Launcher for Commercial Transportation to Space A80-032

Combustion and Combustor Designs

Photographic Observation of Reactive Stream Impingement A80-025

Combustion Stability, Ignition, and Detonation

Effects of HMX on the Combustion Response Function A80-105
Thrust and Ignition Transients of the Space Shuttle Solid Rocket Motor A80-089
Microwave Measurement of the Solid-Propellant Pressure-Coupled Response Function A80-088
Combustion Studies of Aluminized PVC Plastisol A80-073
Ignition Delay Studies on Hybrid Propellant Grains A80-050
Results of Experimental Investigations of the $L\times$ Phenomenon A80-037
Photographic Observation of Reactive Stream Impingement A80-025

Electric and Advanced Space Propulsion

Pulsed Plasma Thruster Backflow Characteristics A80-078
Inductive Energy Storage for MPD Thrusters A80-077
Performance Trends in Spacecraft Auxiliary Propulsion Systems A80-069
Nuclear Electric Power System for Solar System Exploration A80-060
Analysis of an Arctic Polesitter A80-046

Engine Performance

Specific Impulse Prediction of Solid-Propellant Motors A80-071
Performance Trends in Spacecraft Auxiliary Propulsion Systems A80-069
Photographic Observation of Reactive Stream Impingement A80-025

Environmental Effects

Pulsed Plasma Thruster Backflow Characteristics A80-078
Comparison of DMSP and NTS-2 Dosimeter Measurements with Predictions A80-047
Modification of the Aerospace Environment by Large Space Vehicles A80-040

Fuels and Propellants, Properties of

Effects of HMX on the Combustion Response Function A80-105
Combustion Studies of Aluminized PVC Plastisol A80-073
Ignition Delay Studies on Hybrid Propellant Grains A80-050
Strain Damage Effects on Chemical Aging A80-012

Liquid Rocket Engines and Missile Systems

Large Delta Wings for Earth-to-Orbit Transports A80-079
LEASAT Liquid Apogee Motor Subsystem Design A80-070
Economic and Programmatic Considerations for Advanced Transportation Propulsion Technology A80-068
Dual-Fuel Propulsion: Recent Results for Earth-to-Orbit Vehicles A80-066
Technology Status of a Fluorine-Hydrazine Propulsion System for Planetary Spacecraft A80-059
Impact of Far-Aft Center of Gravity for a Single-Stage-to-Orbit Vehicle A80-054
Solving Subsynchronous Whirl in the High-Pressure Hydrogen Turbomachinery of the SSME A80-038
Feasibility of Simple Bipropellant Blowdown Systems A80-029
LOX-Cooled Thrust Chamber Technology Developments A80-007

Solid and Hybrid Rocket Engines

Thrust and Ignition Transients of the Space Shuttle Solid Rocket Motor A80-089
Combustion Studies of Aluminized PVC Plastisol A80-073
Specific Impulse Prediction of Solid-Propellant Motors A80-071
Ignition Delay Studies on Hybrid Propellant Grains A80-050
Results of Experimental Investigations of the $L\times$ Phenomenon A80-037

Spacecraft Technology

Configurational and Structural Design (including Loads)

Waverider Configurations Derived From Inclined Circular and Elliptic Cones A80-095
Large Multibeam Antennas for Space A80-062
Nuclear Electric Power System for Solar System Exploration A80-060
Technology Status of a Fluorine-Hydrazine Propulsion System for Planetary Spacecraft A80-059
Preliminary Design for a Space-Based Orbital Transfer Vehicle A80-044
Prediction of the Acoustic Environment in the Space Shuttle Payload Bay A80-041
Response of Graphite/Epoxy Sandwich Panels to Moisture and Temperature Transients A80-039
Large Space Erectable Antenna Stiffness Requirements A80-017
High-Performance Parabolic Antenna Reflectors A80-004

Dynamics and Control

Satellite Flywheels with Magnetic Bearings and Passive Radial Centering A80-018
Large Space Erectable Antenna Stiffness Requirements A80-017

Earth-Orbital Trajectories

Analysis of an Arctic Polesitter A80-046
Two-Impulse Orbit Transfer Error Analysis via Covariance Matrix A80-043
The Geostationary Radiation Environment A80-027

Electric Power

Nickel-Cadmium Battery Technology Advancements for Geosynchronous Orbit Spacecraft A80-087
NTS-2 Nickel-Hydrogen Battery Performance A80-006

Entry Vehicle Aerodynamic Heating

Orbit Transfer Propulsion and Large Space Systems A80-090

Entry Vehicle Mission Studies and Flight Mechanics

Technology and Operational Considerations for Low-Heat-Rate Entry Trajectories A80-080
Future Planetary Probes for Jupiter and Saturn A80-057
Unified Treatment of Lifting Atmospheric Entry A80-022

Entry Vehicle Testing, Flight and Ground

Simplified Geometric Modeling of Complex Aerodynamic Shapes A80-013

Meteoroid and Radiation Protection

Comparison of DMSP and NTS-2 Dosimeter Measurements with Predictions A80-047
The Geostationary Radiation Environment A80-027
Particulate Release Rates from Shuttle Orbiter Surfaces Due to Meteoroid Impact A80-011

Propulsion Systems Integration

Orbit Transfer Propulsion and Large Space Systems A80-090
Inductive Energy Storage for MPD Thrusters A80-077
LEASAT Liquid Apogee Motor Subsystem Design A80-070
Performance Trends in Spacecraft Auxiliary Propulsion Systems A80-069

Technology Status of a Fluorine-Hydrazine Propulsion System for Planetary Spacecraft A80-059
Feasibility of Simple Bipropellant Blowdown Systems A80-029

Simulation

Particulate Release Rates from Shuttle Orbiter Surfaces Due to Meteoroid Impact A80-011

Systems

Electrostatically Formed Antennas A80-081
Automatic Fabrication of Large Space Structures—The Next Step A80-051
Comparison of DMSP and NTS-2 Dosimeter Measurements with Predictions A80-047
Preliminary Design for a Space-Based Orbital Transfer Vehicle A80-044
Advanced Technology for Direct TV-Broadcasting Satellites A80-016
Evolution of the Intelsat System from Intelsat IV to Intelsat V A80-014
High-Performance Parabolic Antenna Reflectors A80-004

Temperature Control

Miniature Quartz Crystal Microbalance for Contamination Measurement A80-028

Testing, Flight and Ground

Impact of the Space Environment on Spacecraft Lifetimes A80-084
Modification of a Very Large Test Chamber for Plasmasphere Simulation A80-056

Structural Mechanics and Materials

Materials, Properties of

Response of Graphite/Epoxy Sandwich Panels to Moisture and Temperature Transients A80-039
Strain Damage Effects on Chemical Aging A80-012

Structural Composite Materials

High-Performance Parabolic Antenna Reflectors A80-004

Structural Design

Axially Compressed Optimum Cylinder—Comparison of Stiffener Configurations A80-083
Electrostatically Formed Antennas A80-081
Large Space Structure Automated Assembly Technique A80-061

Structural Dynamics

Coupled-Interaction Launch Behavior of a Flexible Rocket and Flexible Launcher A80-076
Quarter-Scale Space Shuttle Design, Fabrication, and Test A80-053

Structural Stability

Solving Subsynchronous Whirl in the High-Pressure Hydrogen Turbomachinery of the SSME A80-038

Structural Statics

Prediction of Loads on Antenna Ribs Due to Mesh Deployment A80-052

Thermophysics and Thermochemistry

Ablation, Pyrolysis, Thermal Decomposition and Degradation (including Refractories)

Radiative Melting of Materials with Melt Removal A80-082

Heat Conduction

Radiative Melting of Materials with Melt Removal A80-082
Thermal Resistance of a Convectively Cooled Plate with Nonuniform Applied Flux A80-063
LOX-Cooled Thrust Chamber Technology Developments A80-007

Radiation and Radiative Heat Transfer

Wall Temperatures and Solar Deflection of Cylindrical Structures in Space A80-091
Differential Absorption Factors Between Two Area Elements in a Cylinder A80-065
Prediction of Rocket Plume Flowfields for Infrared Signature Studies A80-036
Turbulent Radiating Shock Layers with Coupled Ablation Injection A80-034

Thermal Control

Ultraviolet Irradiation Effects on Candidate Spacelab Thermal Control Coatings A80-086
Deployable Heatshields for Future Multistage Missiles A80-010

Thermal Modeling and Analysis

Thermal Resistance of a Convectively Cooled Plate with Nonuniform Applied Flux A80-063

Thermal Surface Properties

Ultraviolet Irradiation Effects on Candidate Spacelab Thermal Control Coatings A80-086

Author Index

Allen, J. M., A80-064
Anderson, E. C., A80-034
Appich Jr., W. H., A80-099
Archer, J. S., A80-004
Bailey, J. P., A80-079
Baker Sr., G. A., A80-084
Baker, J. C., A80-084
Baker, R. L., A80-023
Barbera, F. J., A80-085
Barengoltz, J., A80-011
Bergmann, H. W., A80-039
Betz, F., A80-006
Billig, F. S., A80-074
Bond, D. L., A80-059
Bonson, S. P., A80-035
Bosma, J., A80-086
Breitling, S. M., A80-012
Brien, E. P., A80-044
Bühler, R. D., A80-058
Bushnell David, A80-052
Butts, A. J., A80-057
Calarese, W., A80-009
Cane, R. L. D., A80-063
Carlton, C. H., A80-012
Caveny, L. H., A80-089
Chatterjee, A. K., A80-073
Christensen, D. E., A80-075
Cobb, E. R., A80-020
Cochran Jr., J. E., A80-075
Cohen, N. S., A80-105
Cost, T. L., A80-076
Daniels, P., A80-031
Dash, S. M., A80-036
Deane, J. R., A80-049
DeJarnette, F. R., A80-094
Deml, D., A80-005
Denysyk, B., A80-055
Dienemann M. W., A80-062
Dillenius, M. F. E., A80-064
Donatelli, P. A., A80-070
Driver, J. M., A80-046
Dunlop, J. D., A80-006
Durrani, S. H., A80-003
Ek, M. C., A80-038
Eldred, C. H., A80-080
Emero D. H., A80-053
Ericsson, L. E., A80-026, A80-097, A80-098
Fager, J. A., A80-017
Fedele, J. B., A80-023
Fellows, K. A., A80-049
Fishburne, E. S., A80-036
Foldes, P., A80-062
Ford, C. P., A80-094
Francis, E. C., A80-012
Freeman Delma C. Jr., A80-054
French, K. E., A80-045
Fritz, D. E., A80-069
Furukawa, M., A80-065, A80-091
Gai, S. L., A80-008
Goetz, A. C., A80-010
Gogineni, P. R., A80-055
Goldfinger, A. D., A80-104
Grahn, S., A80-048
Guenther, R. A., A80-021
Hamacher, H., A80-030
Harstad, K. G., A80-078
Hearn, H. C., A80-029
Herniter, B., A80-040
Jecmen, D. M., A80-021
Jensen, D. L., A80-010
Jones, R. M., A80-077
Joshi, P. C., A80-073
Karmaker, R., A80-083
Keblawi, F. S., A80-003
King, H. H., A80-042
Koelle, D. E., A80-016
Kramer, P. A., A80-058
Krishna, P. M. M., A80-050
Kugath, D. A., A80-061
Kunz, K. E., A80-090
Kuo, K. K., A80-089
Landsbaum, E. M., A80-071
Lantz, E., A80-032
Lawver, B. R., A80-025
Leary, J. P., A80-071
Lehman, L. L., A80-022
LeMessurier, R. W., A80-079

Lester, R. M., A80-015
Levadou, F., A80-086
Lewis, C. H., A80-055
Lin, T. C., A80-023
Lunde, B. K., A80-067
MacConochie, I. O., A80-044, A80-079
Macklis, H., A80-069
Magiawala, K. R., A80-088
Martin, J. A., A80-066, A80-068
McCool, A. A., A80-072
McNamara, R. P., A80-088
Mendillo, M., A80-040
Mihora, D. J., A80-081
Moss, J. N., A80-034
Muench, W. K., A80-051
Murphy, J. P., A80-057
Nachtsheim, P. R., A80-022
Nielsen, J. N., A80-033
Outlaw, R. A., A80-067
Pasley, G. F., A80-070
Patil, S. R., A80-008
Pearce, B. E., A80-036
Pearson, O. L., A80-056
Pergament, H. S., A80-036
Pershing, B. M., A80-023
Phillips, W M., A80-060
Pitchaiah, K., A80-050
Pless, L. C., A80-078
Pollack, L., A80-001
Ponting, M. H., A80-049
Pope, L. D., A80-041
Porcelli, G., A80-043
Potter, J. H., A80-072
Poubeau, P. C., A80-018
Powell R. W., A80-054
Prasad, A., A80-082
Price, H. G., A80-007
Pruett, R. G., A80-047
Quaglione, G., A80-014
Rasmussen, M. L., A80-095
Readey Jr., H. J., A80-020
Reding, J. P., A80-021, A80-026, A80-097, A80-098
Redmond, P. J., A80-081
Rehder, J. J., A80-044
Reudink, D. O., A80-002
Rote, D., A80-040
Rousar, D. C., A80-007
Rudolph, L. K., A80-077, A80-078
Sackheim, R. L., A80-069
Salinsa, M. P., A80-071
Schmidt, F. A., A80-067
Schneider, G. E., A80-063
Schoyer, H. F. R., A80-037
Shackelford, B. W., A80-089
Shope, F. L., A80-013
Simmonds, A. L., A80-034
Slysh, P., A80-061
Sparks, R. H., A80-087
Spencer, R. G., A80-007
Stallings Jr., R. L., A80-024
Stassinopoulos, E. G., A80-027
Stenmark, L., A80-048
Stockbridge, R. D., A80-074
Stockel,J. F., A80-006
Strand, L. D., A80-088, A80-105
Verble Jr., A. J., A80-072
Vogel, E., A80-043
Wallace, D. A., A80-028
Waltrup, P. J., A80-074
Weeks, G. E., A80-076
Wilby, J. F., A80-041
Wilhite, A. W., A80-019, A80-066
Wittmeyer, R. E., A80-099
Wurster, K. E., A80-080
Yeh, Y. S., A80-002
Young, D. E., A80-094
Yovanovich, M. M., A80-063
Zigrang, D. J., A80-039

Chronological Index

A80-001 Technologies for Future INTELSAT Satellites. Louis Pollack, *COMSAT Laboratories* (JSR 17, 1, p. 4) Article based on AIAA Paper 79-0244

A80-002 Rapid-Scan Area-Coverage Communication Satellite. D. O. Reudink and Y. S. Yeh, *Bell Laboratories* (JSR 17, 1, p. 9) Article based on AIAA Paper 78-548 CP782

A80-003 Communications Satellite System Concept Based on the AMPS Experiment. S. H. Durrani, *NASA Headquarters*; and F. S. Keblawi, *The MITRE Corporation* (JSR 17, 1, p. 15) Article based on AIAA Paper 78-629 CP782

A80-004 High-Performance Parabolic Antenna Reflectors. J. S. Archer, *TRW Defense and Space Systems Group* (JSR 17, 1, p. 20) Article based on AIAA Paper 78-593 CP782

A80-005 High-Power Travelling Wave Tubes for Direct TV Broadcast Satellites. D. Deml, *AEG-Telefunken* (JSR 17, 1, p. 27) Article based on AIAA Paper 78-635 CP782

A80-006 NTS-2 Nickel-Hydrogen Battery Performance. Stockel,J. F., and J. D. Dunlop, *COMSAT Laboratories*; and F. Betz, *Naval Research Laboratory* (JSR 17, 1, p. 31) Article based on AIAA Paper 78-536 CP782

A80-007 LOX-Cooled Thrust Chamber Technology Developments. R. G. Spencer, and D. C. Rousar, *Aerojet Liquid Rocket Company*; and H. G. Price, *NASA Lewis Research Center* (JSR 17, 1, p. 35) Article based on AIAA Paper 78-1035

A80-008 Subsonic Axisymmetric Base Flow Experiments with Base Modifications. S. L. Gai and S. R. Patil, *Indian Institute of Technology* (JSR 17, 1, p. 42) Article

A80-009 GAU-8 Projectile Afterbody Drag Reduction by Boattailing and Heated Gas Injection. Wladimiro Calarese, *Air Force Flight Dynamics Laboratory* (JSR 17, 1, p. 47) Article based on AIAA Paper 79-0146

A80-010 Deployable Heatshields for Future Multistage Missiles. Alan C. Goetz and Duane L. Jensen, *Lockheed Missile Systems Division* (JSR 17, 1, p. 53) Article

A80-011 Particulate Release Rates from Shuttle Orbiter Surfaces Due to Meteoroid Impact. J. Barengoltz, *Jet Propulsion Laboratory, California Institute of Technology* (JSR 17, 1, p. 58) Article based on AIAA Paper 78-1608 CP788

A80-012 Strain Damage Effects on Chemical Aging. E. C. Francis, S. M. Breitling and C. H. Carlton, *United Technologies* (JSR 17, 1, p. 63) Engineering Note based on AIAA Paper 79-1246

A80-013 Simplified Geometric Modeling of Complex Aerodynamic Shapes. Frederick L. Shope, *ARO, Inc.* (JSR 17, 2, p. 65) Synoptic

A80-014 Evolution of the Intelsat System from Intelsat IV to Intelsat V. Giuseppe Quaglione, *Telespazio* (JSR 17, 2, p. 67) Article

A80-015 Telesat Canada Plans for New Satellite Systems. R. M. Lester, *Telesat Canada* (JSR 17, 2, p. 75) Article based on AIAA Paper 78-544 CP782

A80-016 Advanced Technology for Direct TV-Broadcasting Satellites. Dietrich E. Koelle, *Messerschmitt-Boelkow-Blohm (MBB)* (JSR 17, 2, p. 79) Article based on AIAA Paper 78-634 CP782

A80-017 Large Space Erectable Antenna Stiffness Requirements. John A. Fager, *General Dynamics/Convair Division* (JSR 17, 2, p. 86) Article based on AIAA Paper 78-590 CP782

A80-018 Satellite Flywheels with Magnetic Bearings and Passive Radial Centering. P. C. Poubeau, *Societe Nationale Industrielle Aerospatiale* (JSR 17, 2, p. 93) Article based on AIAA Paper 78-571 CP782

A80-019 Optimization of Rocket Propulsion Systems for Advanced Earth-to-Orbit Shuttles. Alan W. Wilhite, *NASA Langley Research Center* (JSR 17, 2, p. 99) Article based on AIAA Paper 78-972

A80-020 Center-Loaded Duct Integral Rocket-to-Ramjet Transition Testing. Harvey J. Readey Jr. and Edgar R. Cobb,

Martin Marietta Aerospace (JSR **17**, 2, p. 105) Article based on AIAA Paper 78-937

A80-021 Scale Effects on Fluctuating Pressures in Spike-Induced Flow Separation. J. Peter Reding, Rolf A. Guenther and Dennis M. Jecmen, *Lockheed Missiles & Space Company, Inc.* (JSR **17**, 2, p. 112) Article based on AIAA Paper 79-0143

A80-022 Unified Treatment of Lifting Atmospheric Entry. Philip R. Nachtsheim, *NASA Ames Research Center*; and Larry L. Lehman, *Stanford University* (JSR **17**, 2, p. 119) Article

A80-023 Engineering Model for Re-entry Vehicle Turbulent Wakes. T. C. Lin, J. B. Fedele, R. L. Baker and B. M. Pershing, *The Aerospace Corporation* (JSR **17**, 2, p. 123) Article based on AIAA Paper 79-0153

A80-024 Reynolds Number Effects on Aerodynamic Characteristics at Large Angles of Attack. Robert L. Stallings Jr., *NASA Langley Research Center* (JSR **17**, 2, p. 129) Article based on AIAA Paper 79-0301

A80-025 Photographic Observation of Reactive Stream Impingement. B. R. Lawver, *Aerojet Liquid Rocket Company* (JSR **17**, 2, p. 134) Article based on AIAA Paper 79-0154

A80-026 Transonic Sting Interference. L. E. Ericsson and J. P. Reding, *Lockheed Missiles & Space Company, Inc.* (JSR **17**, 2, p. 140) Article based on AIAA Paper 79-0109

A80-027 The Geostationary Radiation Environment. E. G. Stassinopoulos, *NASA Goddard Space Flight Center* (JSR **17**, 2, p. 145) Article

A80-028 Miniature Quartz Crystal Microbalance for Contamination Measurement. Donald A. Wallace, *Berkeley Controls Incorporated* (JSR **17**, 2, p. 153) Article based on AIAA Paper 78-1632

A80-029 Feasibility of Simple Bipropellant Blowdown Systems. H. C. Hearn, *Lockheed Missiles & Space Company, Inc.* (JSR **17**, 2, p. 157) Engineering Note

A80-030 Evacuation of a Spacelab Experiment Chamber Through the Venting Line. H. Hamacher, *Deutsche Forschungs- und Versuchsanstalt fur Luft- und Raumfahrt e.V.* (JSR **17**, 2, p. 158) Engineering Note based on AIAA Paper 78-1605 CP788

A80-031 Ogive Cylinder Modified for Near-Minimum Side Moment. Peter Daniels, *Naval Surface Weapons Center* (JSR **17**, 3, p. 161) Synoptic

A80-032 High-Energy Launcher for Commercial Transportation to Space. E. Lantz, *U.S. Nuclear Regulatory Commission* (JSR **17**, 3, p. 163) Synoptic based on AIAA Paper 79-0869 CP797

A80-033 Missile Aerodynamics—Past, Present, Future. Jack N. Nielsen, *Nielsen Engineering & Research, Incorporated* (JSR **17**, 3, p. 165) Lecture based on AIAA Paper 79-1819

A80-034 Turbulent Radiating Shock Layers with Coupled Ablation Injection. James N. Moss, and Ann L. Simmonds, *NASA Langley Research Center*; and E. Clay Anderson, *DCW Industries, Inc.* (JSR **17**, 3, p. 177) Article based on AIAA Paper 78-1186

A80-035 Aerodynamic Characteristics for Debris from Space Shuttle External Tank. S. P. Bonson, *Martin Marietta Corporation* (JSR **17**, 3, p. 184) Article based on AIAA Paper 79-0258

A80-036 Prediction of Rocket Plume Flowfields for Infrared Signature Studies. S. M. Dash, B. E. Pearce, H. S. Pergament and E. S. Fishburne, *Aeronautical Research Associates of Princeton, Inc.* (JSR **17**, 3, p. 190) Article based on AIAA Paper 79-0095

A80-037 Results of Experimental Investigations of the $L\times$ Phenomenon. H. F. R. Schoyer, *Delft University of Technology* (JSR **17**, 3, p. 200) Article based on AIAA Paper 78-1075

A80-038 Solving Subsynchronous Whirl in the High-Pressure Hydrogen Turbomachinery of the SSME. Matthew C. Ek, *Rockwell International/Rocketdyne Division* (JSR **17**, 3, p. 208) Article based on AIAA Paper 78-1002

A80-039 Response of Graphite/Epoxy Sandwich Panels to Moisture and Temperature Transients. D. J. Zigrang, *Rockwell International*; and H. W. Bergmann, *Institute of Structural Mechanics, DFVLR* (JSR **17**, 3, p. 219) Article

A80-040 Modification of the Aerospace Environment by Large Space Vehicles. Michael Mendillo, and Bruce Herniter, *Boston University*; and Donald Rote, *Argonne National Laboratory* (JSR **17**, 3, p. 226) Article based on AIAA Paper 79-0391

A80-041 Prediction of the Acoustic Environment in the Space Shuttle Payload Bay. John F. Wilby and Larry D. Pope, *Bolt Beranek and Newman, Inc.* (JSR **17**, 3, p. 232) Article based on AIAA Paper 79-0643

A80-042 Ballistic Missile Re-entry Dispersion. Hartley H. King, *Effects Technology, Inc.* (JSR **17**, 3, p. 240) Article

A80-043 Two-Impulse Orbit Transfer Error Analysis via Covariance Matrix. G. Porcelli, *International Telecommunication Satellite Organization*; and E. Vogel, *Fairchild Space and Electronics Company* (JSR **17**, 3, p. 248) Article based on AIAA Paper 79-0256

A80-044 Preliminary Design for a Space-Based Orbital Transfer Vehicle. Ian O. MacConochie, and John J. Rehder, *NASA Langley Research Center*; and E. P. Brien, *Kentron International, Inc.* (JSR **17**, 3, p. 256) Article based on AIAA Paper 79-0897 CP797

A80-045 Effects of Line Ties on Parachute Deployment. Kenneth E. French, *Lockheed Missiles & Space Company, Inc.* (JSR **17**, 3, p. 260) Article based on AIAA Paper 79-0450 CP791

A80-046 Analysis of an Arctic Polesitter. Johnie M. Driver, *Jet Propulsion Laboratory* (JSR **17**, 3, p. 263) Article based on AIAA Paper 79-0127

A80-047 Comparison of DMSP and NTS-2 Dosimeter Measurements with Predictions. R. G. Pruett, *The Aerospace Corporation* (JSR **17**, 3, p. 270) Article based on AIAA Paper 79-0322

A80-048 Swedish Materials Science Experiment in the Texus 1 and 2 Rockets. Sven Grahn and Lars Stenmark, *Swedish Space Corporation* (JSR **17**, 3, p. 275) Article based on AIAA Paper 79-0521 CP792

A80-049 Symmetric Body Vortices on Slender Bodies of Revolution at Transonic Speeds. J. R. Deane, and M. H. Ponting, *British Aerospace Dynamic Group*; and K. A. Fellows, *Aircraft Research Association* (JSR **17**, 3, p. 282) Engineering Note

A80-050 Ignition Delay Studies on Hybrid Propellant Grains. K. Pitchaiah and P. M. M. Krishna, *Indian Institute of Science* (JSR **17**, 3, p. 284) Engineering Note

A80-051 Automatic Fabrication of Large Space Structures—The Next Step. W. K. Muench, *Grumman Aerospace Corporation* (JSR 17, 3, p. 286) Engineering Note based on AIAA Paper 78-1651

A80-052 Prediction of Loads on Antenna Ribs Due to Mesh Deployment. Bushnell David, *Lockheed Palo Alto Research Laboratory* (JSR 17, 4, p. 290) Article based on AIAA Paper 80-0814 CP804

A80-053 Quarter-Scale Space Shuttle Design, Fabrication, and Test. Emero D. H., *Rockwell International Space Systems Group* (JSR 17, 4, p. 303) Article based on AIAA Paper 79-0827 CP794

A80-054 Impact of Far-Aft Center of Gravity for a Single-Stage-to-Orbit Vehicle. Freeman Delma C. Jr. and Powell Richard W., *NASA Langley Research Center* (JSR 17, 4, p. 311) Article based on AIAA Paper 79-0892 CP797

A80-055 Hypersonic Viscous Shock-Layer Flows Including Leeside Separation. P. R. Gogineni, and Clark H. Lewis, *Virginia Polytechnic Institute and State University*; and Bohdan Denysyk, *EG&G* (JSR 17, 4, p. 316) Article

A80-056 Modification of a Very Large Test Chamber for Plasmasphere Simulation. O. L. Pearson, *NASA Johnson Space Flight Center* (JSR 17, 4, p. 323) Article based on AIAA Paper 78-1625

A80-057 Future Planetary Probes for Jupiter and Saturn. Aubrey J. Butts, *Martin Marietta Aerospace Corporation*; and James P. Murphy, *NASA Ames Research Center* (JSR 17, 4, p. 327) Article based on AIAA Paper 79-0945 CP797

A80-058 Hybrid Rocket/Airbreathing Propulsion for Ballistic Space Transportation. P. A. Kramer, *Institut fur Raumfahrtantriebe*; and R. D. Bühler, *Institut für Raumfahrtantriebe* (JSR 17, 4, p. 334) Article based on AIAA Paper 79-7038

A80-059 Technology Status of a Fluorine-Hydrazine Propulsion System for Planetary Spacecraft. Donald L. Bond, *Jet Propulsion Laboratory, California Institute of Technology* (JSR 17, 4, p. 342) Article based on AIAA Paper 79-0907 CP797

A80-060 Nuclear Electric Power System for Solar System Exploration. W M. Phillips, *Jet Propulsion Laboratory* (JSR 17, 4, p. 348) Article based on AIAA Paper 79-1337

A80-061 Large Space Structure Automated Assembly Technique. Paul Ilysh, *General Dynamics*; and Donald A. Kugath, *General Electric Company* (JSR 17, 4, p. 354) Article based on AIAA Paper 79-0939 CP797

A80-062 Large Multibeam Antennas for Space. P. Foldes, *General Electric Company, Valley Forge*; and Philadelphia Dienemann M. W., *General Electric Company* (JSR 17, 4, p. 363) Article based on AIAA Paper 79-0942 CP797

A80-063 Thermal Resistance of a Convectively Cooled Plate with Nonuniform Applied Flux. G. E. Schneider, and M. M. Yovanovich, *University of Waterloo*; and R. L. D. Cane, *National Research Council* (JSR 17, 4, p. 372) Article based on AIAA Paper 78-86

A80-064 Vortex Development on Slender Missiles at Supersonic Speeds. Jerry M. Allen, *NASA Langley Research Center*; and Marnix F. E. Dillenius, *Nielsen Engineering and Research, Inc.* (JSR 17, 4, p. 377) Engineering Note based on AIAA Paper 79-0360

A80-065 Differential Absorption Factors Between Two Area Elements in a Cylinder. Masao Furukawa, *National Space Development Agency of Japan* (JSR 17, 4, p. 378) Engineering Note

A80-066 Dual-Fuel Propulsion: Recent Results for Earth-to-Orbit Vehicles. James A. Martin and Alan W. Wilhite, *NASA Langley Research Center* (JSR 17, 4, p. 381) Engineering Note based on AIAA Paper 79-0878 CP797

A80-067 Preparation of Ultrapure Thorium Under Outer Space Conditions. F. A. Schmidt, and B. K. Lunde, *Ames Laboratory, Department of Energy*; and R. A. Outlaw, *NASA Langley Research Center* (JSR 17, 4, p. 383) Engineering Note based on AIAA Paper 79-0308

A80-068 Economic and Programmatic Considerations for Advanced Transportation Propulsion Technology. James A. Martin, *NASA Langley Research Center* (JSR 17, 5, p. 385) Article based on AIAA Paper 79-1222

A80-069 Performance Trends in Spacecraft Auxiliary Propulsion Systems. R. L. Sackheim, D. E. Fritz and H. Macklis, *TRW Defense and Space Systems Group* (JSR 17, 5, p. 390) Article based on AIAA Paper 79-1301

A80-070 LEASAT Liquid Apogee Motor Subsystem Design. G. F. Pasley and P. A. Donatelli, *Hughes Aircraft Company* (JSR 17, 5, p. 396) Article based on AIAA Paper 79-1302

A80-071 Specific Impulse Prediction of Solid-Propellant Motors. Ellis M. Landsbaum, Manuel P. Salinsa and J. P. Leary, *The Aerospace Corporation* (JSR 17, 5, p. 400) Article

A80-072 Space Transportation System Solid Rocket Booster Thrust Vector Control System. Alexander A. McCool, *NASA Marshall Space Flight Center*; Adas J. Verble Jr., *NASA Marshall Flight Center*; and Jack H. Potter, *NASA Marshall Space Flight Center* (JSR 17, 5, p. 407) Article based on AIAA Paper 79-1139

A80-073 Combustion Studies of Aluminized PVC Plastisol. A. K. Chatterjee and P. C. Joshi, *Birla Institute of Technology* (JSR 17, 5, p. 413) Article

A80-074 Integral-Rocket Dual-Combustion Ramjets: A New Propulsion Concept. F. S. Billig, P. J. Waltrup and R. D. Stockbridge, *The John Hopkins University Applied Physics Laboratory* (JSR 17, 5, p. 416) Article based on AIAA Paper 79-7094

A80-075 Free-Flight Rocket Attitude Motion Due to Transverse Vibration. John E. Cochran Jr., *Auburn University*; and D. E. Christensen, *U. S. Army Missile Command* (JSR 17, 5, p. 425) Article based on AIAA Paper 79-1668 CP7911

A80-076 Coupled-Interaction Launch Behavior of a Flexible Rocket and Flexible Launcher. George E. Weeks and Thomas L. Cost, *The University of Alabama* (JSR 17, 5, p. 432) Article

A80-077 Inductive Energy Storage for MPD Thrusters. L. K. Rudolph and R. M. Jones, *Jet Propulsion Laboratory, California Instite of Technology* (JSR 17, 5, p. 440) Article based on AIAA Paper 79-0883 CP797

A80-078 Pulsed Plasma Thruster Backflow Characteristics. L. K. Rudolph, L. C. Pless and K. G. Harstad, *Jet Propulsion Laboratory, California Institute of Technology* (JSR 17, 5, p. 447) Article based on AIAA Paper 79-1293

A80-079 Large Delta Wings for Earth-to-Orbit Transports. I. O. MacConochie, *NASA Langley Research Center*; R. W. LeMessurier and J. P. Bailey, *Kentron International Inc.* (JSR 17, 5, p. 453) Article based on AIAA Paper 79-0873 CP797

A80-080 Technology and Operational Considerations for Low-Heat-Rate Entry Trajectories. Kathryn E. Wurster and Charles H. Eldred, *NASA Langley Research Center* (JSR 17, 5, p. 459) Article based on AIAA Paper 79-0890 CP797

A80-081 Electrostatically Formed Antennas. Dennis J. Mihora and Peter J. Redmond, *General Research Corporation* (JSR 17, 5, p. 465) Article based on AIAA Paper 79-0922 CP797

A80-082 Radiative Melting of Materials with Melt Removal. Anant Prasad, *Regional Institute of Technology* (JSR 17, 5, p. 474) Engineering Note

A80-083 Axially Compressed Optimum Cylinder—Comparison of Stiffener Configurations. R. Karmaker, *Indian Institute of Technology* (JSR 17, 5, p. 477) Engineering Note

A80-084 Impact of the Space Environment on Spacecraft Lifetimes. J. C. Baker, *Analytic Services Inc.*; and G. A. Baker Sr., *University of California* (JSR 17, 5, p. 479) Engineering Note

A80-085 Afterbody Pressure Correlations for Vehicles with Ablated Nose Shapes. Frank J. Barbera, *Kaman Sciences Corporation* (JSR 17, 6, p. 481) Synoptic based on AIAA Paper 80-0312

A80-086 Ultraviolet Irradiation Effects on Candidate Spacelab Thermal Control Coatings. J. Bosma and F. Levadou, *European Space Research and Technology Centre (ESTEC)* (JSR 17, 6, p. 558) Article based on AIAA Paper 78-1621

A80-087 Nickel-Cadmium Battery Technology Advancements for Geosynchronous Orbit Spacecraft. Richard H. Sparks, *TRW Defense and Space Systems Group* (JSR 17, 6, p. 554) Article based on AIAA Paper 78-535 CP782

A80-088 Microwave Measurement of the Solid-Propellant Pressure-Coupled Response Function. L. D. Strand, K. R. Magiawala and R. P. McNamara, *Jet Propulsion Laboratory* (JSR 17, 6, p. 483) Article based on AIAA Paper 79-1211

A80-089 Thrust and Ignition Transients of the Space Shuttle Solid Rocket Motor. Leonard H. Caveny, *Princeton University*; Kenneth K. Kuo, *Pennsylvania State University*; and Benjamin W. Shackelford, *NASA Marshall Space Flight Center* (JSR 17, 6, p. 489) Article based on AIAA Paper 79-1137

A80-090 Orbit Transfer Propulsion and Large Space Systems. K. E. Kunz, *Rockwell International Corporation* (JSR 17, 6, p. 495) Article

A80-091 Wall Temperatures and Solar Deflection of Cylindrical Structures in Space. Masao Furukawa, *National Space Development Agency of Japan* (JSR 17, 6, p. 501) Article

A80-094 Calculation of Pressures on Bodies at Low Angles of Attack in Supersonic Flow. F. R. DeJarnette, and C. P. Ford, *North Carolina State University*; and D. E. Young, *Naval Surface Weapons Center* (JSR 17, 6, p. 529) Article based on AIAA Paper 79-1552

A80-095 Waverider Configurations Derived From Inclined Circular and Elliptic Cones. Maurice L. Rasmussen, *University of Oklahoma* (JSR 17, 6, p. 537) Article based on AIAA Paper 79-1665 CP7911

A80-097 Maximum Side Forces and Associated Yawing Moments on Slender Bodies. J. Peter Reding and Lars E. Ericsson, *Lockheed Missiles & Space Company, Inc.* (JSR 17, 6, p. 515) Article based on AIAA Paper 79-1647 CP7911

A80-098 Alleviation of Vortex-Induced Axymmetric Loads. L. E. Ericsson and J. P. Reding, *Lockheed Missiles & Space Company, Inc.* (JSR 17, 6, p. 546) Article based on AIAA Paper 79-1646 CP7911

A80-099 Aerodynamic Effects of Body Slots on a Guided Projectile with Cruciform Surfaces. W. H. Appich Jr. and R. E. Wittmeyer, *Martin Marietta Corporation* (JSR 17, 6, p. 522) Article based on AIAA Paper 79-1658 CP7911

A80-104 The Drag Balance: An Apparatus for Studying Atmosphere-Satellite Surface Interactions. Andrew D. Goldfinger, *The Johns Hopkins University, Applied Physics Laboratory* (JSR 17, 6, p. 565) Engineering Note

A80-105 Effects of HMX on the Combustion Response Function. L. D. Strand, *Jet Propulsion Laboratory, California Institute of Technology*; and N. S. Cohen, *Jet Propulsion Laboratory* (JSR 17, 6, p. 566) Engineering Note

U.S. POSTAL SERVICE
STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION
(Required by 39 U.S.C. 3685)

1. TITLE OF PUBLICATION	A. PUBLICATION NO.	3. DATE OF FILING
JOURNAL OF SPACECRAFT AND ROCKETS	0 0 2 2 - 4 6 5 0	Oct. 1,1980

2. FREQUENCY OF ISSUE	A. NO. OF ISSUES PUBLISHED ANNUALLY	B. ANNUAL SUBSCRIPTION PRICE
BIMONTHLY	6	

4. LOCATION OF KNOWN OFFICE OF PUBLICATION (Street, City, County, State and ZIP Code) (Not printers)
1290 AVENUE OF THE AMERICAS, NEW YORK, N.Y. 10104

5. LOCATION OF THE HEADQUARTERS OR GENERAL BUSINESS OFFICES OF THE PUBLISHERS (Not printers)
SAME AS ABOVE

6. NAMES AND COMPLETE ADDRESSES OF PUBLISHER, EDITOR, AND MANAGING EDITOR

PUBLISHER (Name and Address)
AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS INC., SAME AS ABOVE

EDITOR (Name and Address)
PAUL F. HOLLOWAY SAME AS ABOVE

MANAGING EDITOR (Name and Address)
LAWRENCE S. LEVY SAME AS ABOVE

7. OWNER (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual must be given. If the publication is published by a nonprofit organization, its name and address must be stated.)

NAME	ADDRESS
AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS, INC.	SAME AS ABOVE

8. KNOWN BONDHOLDERS, MORTGAGEES, AND OTHER SECURITY HOLDERS OWNING OR HOLDING 1 PERCENT OR MORE OF TOTAL AMOUNT OF BONDS, MORTGAGES OR OTHER SECURITIES (If there are none, so state)

NAME	ADDRESS
NONE	

9. FOR COMPLETION BY NONPROFIT ORGANIZATIONS AUTHORIZED TO MAIL AT SPECIAL RATES (Section 132.122, PSM)
The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes (Check one)
☐ HAVE NOT CHANGED DURING PRECEDING 12 MONTHS ☐ HAVE CHANGED DURING PRECEDING 12 MONTHS (If changed, publisher must submit explanation of change with this statement.)

10. EXTENT AND NATURE OF CIRCULATION	AVERAGE NO. COPIES EACH ISSUE DURING PRECEDING 12 MONTHS	ACTUAL NO. COPIES OF SINGLE ISSUE PUBLISHED NEAREST TO FILING DATE
A. TOTAL NO. COPIES PRINTED (Net Press Run)	3833	3800
B. PAID CIRCULATION 1. SALES THROUGH DEALERS AND CARRIERS, STREET VENDORS AND COUNTER SALES	-------	------
2. MAIL SUBSCRIPTIONS	3342	3415
C. TOTAL PAID CIRCULATION (Sum of 10B1 and 10B2)	3342	3415
D. FREE DISTRIBUTION BY MAIL, CARRIER OR OTHER MEANS SAMPLES, COMPLIMENTARY, AND OTHER FREE COPIES	40	66
E. TOTAL DISTRIBUTION (Sum of C and D)	3382	3481
F. COPIES NOT DISTRIBUTED 1. OFFICE USE, LEFT OVER, UNACCOUNTED, SPOILED AFTER PRINTING	451	319
2. RETURNS FROM NEWS AGENTS	-----	-----
G. TOTAL (Sum of E, F1 and 2—should equal net press run shown in A)	3833	3800

11. I certify that the statements made by me above are correct and complete.
SIGNATURE AND TITLE OF EDITOR, PUBLISHER, BUSINESS MANAGER, OR OWNER
Nelson W. Friedman, Admin. Mgmt. Sys.

12. FOR COMPLETION BY PUBLISHERS MAILING AT THE REGULAR RATES (Section 132.121, Postal Service Manual)
39 U. S. C. 3626 provides in pertinent part: "No person who would have been entitled to mail matter under former section 4359 of this title shall mail such matter at the rates provided under this subsection unless he files annually with the Postal Service a written request for permission to mail matter at such rates."
In accordance with the provisions of this statute, I hereby request permission to mail the publication named in Item 1 at the phased postage rates presently authorized by 39 U. S. C. 3626.
SIGNATURE AND TITLE OF EDITOR, PUBLISHER, BUSINESS MANAGER, OR OWNER
Nelson W. Friedman, Administrator, Management Systems